Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1 (currently amended): A multifunctional optical device, comprising:

a switch for switching the multifunctional optical device between a mouse mode, a camera mode, and a scanner mode;

an optical sensor array comprising a plurality of optical sensors for generating a captured image ~~capturing images~~ and providing image information, wherein each optical sensor in the optical sensor array provides the image information for a first color, and wherein only optical sensors providing image information for the first color are activated when the multifunction optical device is in the mouse mode;

a processor for receiving the captured image and the image information from the optical sensor array and generating processed data, wherein the processor generates the processed data by calculating a location address according to the captured image if the multifunctional optical device is in the mouse mode, the processor generates the processed data according to ~~processes~~ the captured image if the multifunctional optical device is in the camera mode, and the processor generates the processed data according to the captured image by combining ~~combines~~ a set of linear images if the multifunctional optical device is in the scanner mode; and

an interface port for interfacing the multifunctional optical device with a host computer and for outputting the processed data from the processor to the host computer.

2 (currently amended): The multifunctional optical device of claim 1 wherein ~~each optical sensor in the optical sensor array provides image information for only one color~~ the first color is selected from a group of at least three component colors.

3 (currently amended): The multifunctional optical device of claim 2, wherein ~~only optical sensors providing image information for a first color are activated~~ other optical sensors providing image information for a second color and a third color are deactivated when the multifunction optical device is in the mouse mode.

4 (original): The multifunctional optical device of claim 1 wherein the optical sensor array is logically divided into a plurality of blocks of optical sensors, and when the multifunctional optical device is in the scanner mode, successive blocks of optical sensors are sequentially activated to capture the set of linear images.

5 (original): The multifunctional optical device of claim 1 further comprising a memory for storing device settings of the multifunctional optical device and for temporarily storing images captured by the optical sensor array.

6 (currently amended): The multifunctional optical device of claim 1 further comprising a first light source for illuminating a surface on which the multifunctional optical device is placed with light of [[a]] the first color when the multifunctional optical device is in the mouse mode.

7 (currently amended): The multifunctional optical device of ~~claim 1~~ claim 6 further comprising a second light source for illuminating a surface on which the multifunctional optical device is placed with light of a second color when the multifunctional optical device is in the scanner mode.

8 (original): The multifunctional optical device of claim 1 wherein the processor is a digital signal processor (DSP).

9 (original): The multifunctional optical device of claim 1 wherein the optical sensor array is a charge coupled device (CCD).

10 (original): The multifunctional optical device of claim 1 wherein the optical sensor array is a complimentary metal oxide semiconductor (CMOS) optical sensor array.

11 (original): The multifunctional optical device of claim 1 wherein the interface port interfaces with the host computer through a communication protocol selected from a group consisting of IEEE 802.11a, IEEE 802.11b, IEEE 802.11g, Bluetooth, USB, PS/2, and IEEE 1394.

12 (currently amended): A multifunctional optical device, comprising:

a switch for switching the multifunctional optical device between a mouse mode, a camera mode, and a scanner mode;

an optical sensor array comprising a plurality of optical sensors for generating a captured image ~~capturing images~~ and providing image information, wherein each optical sensor in the optical sensor array provides image information for only one color selected from a group of at least three component colors, and wherein only optical sensors providing image information for a first color are activated when the multifunction optical device is in the mouse mode;

a processor for receiving the captured image and the image information from the optical sensor array and generating processed data, wherein the processor generates the processed data by calculating a location address according to the captured image if the multifunctional optical device is in the mouse mode, the processor generates the processed data according to ~~processes~~ the captured image if the multifunctional optical device is in the camera mode, and the processor generates the processed data according to the captured image by combining ~~combines~~ a set of linear images if the multifunctional optical device is in the scanner mode;

a memory for storing device settings of the multifunctional optical device and for temporarily storing images captured by the optical sensor array; and

an interface port for interfacing the multifunctional optical device with a host computer and for outputting the processed data from the processor to the host computer.

13 (cancelled).

14 (original): The multifunctional optical device of claim 12 wherein the optical sensor array is logically divided into a plurality of blocks of optical sensors, and when the multifunctional optical device is in the scanner mode, successive blocks of optical sensors are sequentially activated to capture the set of linear images.

15 (currently amended): The multifunctional optical device of claim 12 further comprising a first light source for illuminating a surface on which the multifunctional optical device is placed with light of [[a]] the first color when the multifunctional optical device is in the mouse mode.

16 (currently amended): The multifunctional optical device of ~~claim 12~~ claim 15 further comprising a second light source for illuminating a surface on which the multifunctional optical device is placed with light of a second color when the multifunctional optical device is in the scanner mode, wherein the second color is different from the first color.

17 (original): The multifunctional optical device of claim 12 wherein the processor is a digital signal processor (DSP).

18 (original): The multifunctional optical device of claim 12 wherein the optical sensor array is a charge coupled device (CCD).

19 (original): The multifunctional optical device of claim 12 wherein the optical sensor array is a complimentary metal oxide semiconductor (CMOS) optical

sensor array.

20 (original): The multifunctional optical device of claim 12 wherein the interface port interfaces with the host computer through a communication protocol selected from a group consisting of IEEE 802.11a, IEEE 802.11b, IEEE 802.11g, Bluetooth, USB, PS/2, and IEEE 1394.